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EXAMINER	
LONSBERRY, HUNTER B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/738,905	BORECZKY ET AL.	
	Examiner	Art Unit	
	Hunter B. Lonsberry	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/27/07 have been fully considered but they are not persuasive.

Applicant argues that "Yeo in combination with Yao fail to disclose on-the-fly indexing a point of the look-x data stream to a corresponding point in the main data flow by the client-side device, as defined in Claim 1. In the Office Action, it was agreed that Yeo fails to disclose this feature of Claim 1. It was proposed, however, that Yao discloses "a client side indexing system which records the position in a program where a user has indicated playback, stop or shifting in time forwards or backwards, and later presents these points to the user in order to easily navigate the program." (Office Action page 3). Applicants respectfully submit that this is different from the features of Claim 1. For example, while Yao may teach a data playback device that records where a user has indicated playback, this is entirely different from on-the-fly indexing of Claim 1. Claim 1 defines that a timeframe is determined in the data stream and a look-ahead point is selected to represent the point in the data stream at that timeframe. No recording of user patterns or indication needs to be done in Claim 1. Instead, the indexing is done on-the-fly by the client side device as unindexed video is received. " Further no user input is required by the claim. Further neither of the references teaches transmission of an unindexed dataflow from the server. The references refer to placing pre-computed frames onto the stream; this is different from on the fly indexing. (amendment pages 9-11)

The Examiner disagrees. In Yeo, the indexing is not preformed at the server, rather a display organizer 508, located within user terminal 102. The Examiner reads the term indexing as creating/arranging an index, keeping track of the corresponding positions for the frame and the point in the programming to which it corresponds. Why Yeo's server clearly transmits the frames, there is no creation/organizing/arranging of the content preformed at the server which enables a user to navigate the data, thus the Examiner terms this as an unindexed stream. Further, Yeo is silent with regards to the

time interval between "temporal frames" shown in figure 6a/b. It is ambiguous if there is a random amount of time between the frames, or if there is an even amount of time between frames. The reference simply teaches that the frames displayed within figure 6 have been assembled by the client device. Due to this somewhat ambiguous teaching, (in that the temporal interval between displayed frames is ambiguous) the Examiner relied upon Yao to teach "on the fly indexing".

Yao, by teaching that the index is created at the STB, based off of where a user has indicated playback, stop or shifting in time forwards or backwards, meets the definition of on the fly, as the index is not pre-created by the server, but is instead created when a user indicates stop/playback. That is to say, it happens dynamically, as it happens, at not at a predetermined interval. The Examiner believes this meets the definition, as index entries are created upon user interaction.

The Examiner requests that Applicant could clarify the meaning of the term "on the fly" as the Examiner would find that useful for examination. Does it mean, not predetermined? Does it mean dynamically, or is there a different meaning applicant is attributing to the term?

The Examiner agrees that the claims do not require any user input, however given the open ended term "comprising" and absent any negative limitations, the claims, in their current state, do not preclude any additional steps, such as user selections,

recording of user positions etc. The Examiner suggests that Applicant amends the claims in such a way as to clarify that all actions are carried out without user input, if Applicant wants to make it clear that the user is not involved.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 10-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo (US Pat No. 6,711,741) in view of Yao (US Pat No. 6,721,490).

Regarding claim 1, Yeo discloses a method for providing client-side indexing and navigation of video data comprising the steps of:

opening a main connection 324 for a client-side device to receive transmissions of a data flow, wherein said data flow is not indexed (column 3, lines 48-50);

opening a second connection for the client side device to receive at least one look-x data stream 322 comprising a plurality of data from said data flow wherein said plurality of data is not indexed (column 3, lines 48-50, indexing is preformed via display

organizer 508 located within user terminal 102, column 4, lines 13-26, column 6, lines 6-18),

indexing with the client side device at least one point of the look-x data stream to at least one corresponding point in said dataflow (organizer 508 creates the index locally from time stamped data for the corresponding temporal snapshots, column 4, lines 13-26, 43-58, column 5, line 56-column 6, line18) , wherein said indexing step with the client-side device further comprises determining a particular timeframe in said data flow and selecting at least one look-x point for display to represent the at least one corresponding pointer in said data flow at a particular timeframe in the data flow (figures 6a/b, column 4, line 43-65), and

providing control of a playback position of said data flow based on the indexed points in the look-x data stream (figures 6a/b, column 4, line 43-65).

Yeo fails to teach on the fly indexing.

Yao discloses a client side indexing system which records the position in a program where a user has indicated playback, stop or shifting in time forwards or backwards, and later presents these points to the user in order to easily navigate the program (column 4, lines 1-67, column 22, line 1-50, figures 25-27).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify Yeo to utilize the client side on the fly indexing as taught by Yao, for the advantages of making it easy to navigate through a video stream based off a users past behaviour.

Regarding claims 2, 12, Yeo discloses displaying a timeline corresponding to the indexed look-x points, the timeline having at lease one of said indexed look-xpoints displayed so as to reference a position on said timeline (figure 6a, position 602-610, each of which is at a corresponding time interval).

Regarding claims 3, 11, the claimed step of displaying at least one of a skip forward and a skip backward button configured to step a play position of the data flow to a position corresponding to a respective one of a next and a previous look-x data points relative to the current play position of the data flow is met by column 5, lines 1-3, wherein Yeo teaches the use of options within the media player 612 to step to the previous frame or the next frame, so as to allow the user to step through the playback sequence.

Regarding claim 4, Yeo discloses in figure 6a, a timeline corresponding to a number of look-xpoints with images representing each point (602-610), a user selects a point and the corresponding time is displayed (column 4, lines 59-64).

Regarding claim 5, Yeo discloses the flow being a video and look-x points being frames of the data flow and being retrieved from the main connection or the second connection (column 3, lines 48-50), source video frames 106 (the video) being sent on the main data path 324, and temporal snapshots (the look-x points/frames) being sent on a second data path 322.

Regarding claim 10, Yeo discloses a device 102 for client-side indexing comprising:

A video player 102 comprising:

a client side main data stream connection 324 for receiving transmissions of a non-indexed data flow (column 3, lines 48-50);

a client side look-x data stream connection 322 for receiving at leased one non-indexed look-x data transmission of the data flow (column 3, lines 48-50, indexing is preformed via display organizer 508 located within user terminal 102, column 4, lines 13-26, column 6, lines 6-18),

a client side controller adapted to index at least one point of the look-x data stream to at least one corresponding point in said dataflow by summarizing the look-X data stream (organizer 508 creates the index locally from time stamped data for the corresponding temporal snapshots, column 4, lines 13-26, 43-58, column 5, line 56-column 6, line18) and generating for display the at least one look-x point to represent the at least one corresponding point in said data flow (figures 6a/b, column 4, line 43-65), and

a display 216 (figure 2, figure 6a) for displaying at least one of the indexed look-x data points.

Yeo fails to teach on the fly indexing.

Yao discloses a client side indexing system which records the position in a program where a user has indicated playback, stop or shifting in time forwards or

backwards, and later presents these points to the user in order to easily navigate the program (column 4, lines 1-67, column 22, line 1-50, figures 25-27).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify Yeo to utilize the client side on the fly indexing as taught by Yao, for the advantages of making it easy to navigate through a video stream based off a users past behaviour.

With regards to claim 13, the claimed select button for providing a user the capability to select at least one of the indexed points enabling display of the data flow to begin and the selected indexed point is met by column 4, lines 52-58, wherein Yeo teaches the ability for a user to control the playback and select the source frames to view based on the temporal snapshots.

Regarding claim 15, Yeo discloses a method for client-side navigating and indexing comprising:

a client side main data stream connection 324 for receiving transmissions of a non-indexed data flow (column 3, lines 48-50);

a client side look-x data stream connection 322 for receiving at least one non-indexed look-x data transmission of the data flow (column 3, lines 48-50, indexing is preformed via display organizer 508 located within user terminal 102, column 4, lines 13-26, column 6, lines 6-18),

on the client side an index, the index comprising a least one look-x data point to at least one corresponding point in said dataflow (organizer 508 creates the index locally from time stamped data for the corresponding temporal snapshots, column 4, lines 13-26, 43-58, column 5, line 56-column 6, line18) and,

providing control of a playback position of said data flow based on the indexed points in the look-x data stream (figures 6a/b, column 4, line 43-65).

Yeo fails to teach on the fly indexing.

Yao discloses a client side indexing system which records the position in a program where a user has indicated playback, stop or shifting in time forwards or backwards, and later presents these points to the user in order to easily navigate the program (column 4, lines 1-67, column 22, line 1-50, figures 25-27).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify Yeo to utilize the client side on the fly indexing as taught by Yao, for the advantages of making it easy to navigate through a video stream based off a users past behaviour.

3. Claims 6-9 , 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo (US Pat. No. 6,711,741) in view of Yao (US Pat. No. 6,721,490) in view of Ceccarelli (US Pat. No. 6,222,532),

With regards to claims 6 and 14, Yeo, in combination with Yao teaches all of that which is discussed above with regards to claim 1. Yeo does not expressly disclose that the second connection is a low-resolution connection relative to the main connection.

Ceccarelli discloses a system in which the provider (or server) can label keyframes before transmission to the client, in order to allow the client easy access to the chosen keyframes (column 1, lines 18-27). While Ceccarelli does not specifically state the use of two connections to the server (one for main video and one for the keyframes), he does, however, make a realization that "video distortions in relatively smallish keyframes have been experienced as tolerable, [and that] if a particular keyframe is enlarged, extra measures should be taken for picture improvement" (column 2, lines 4-7). This indicates an inherent understanding that the keyframes are often times transmitted as lower resolution images and will need some processing in order to display them at higher resolution requirements. Therefore, it can be understood that the lower resolution keyframes could be used and downloaded over a second lower resolution connection (the connection taught by Yeo).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the low resolution connection, as described by Ceccarelli, into the combined system of Yeo and Yao, in order to allow for more bandwidth conservation and the ability for the user to download more information regarding the keyframes and look-x points and not take up massive amounts of bandwidth in the process.

With regards to claim 7, Yeo, in combination with Yao teaches all of that which is discussed above with regards to claim 1. Yeo does not expressly disclose any of the steps of selecting, displaying, or updating the indexed look-x points. Yeo simply discussed the TSG 300 (column 3, lines 18-50), which serves to select and send the temporal snapshots to the client.

Ceccarelli goes into detail about how the keyframes are selected, displayed, and updated. The claimed step of selecting a predetermined number of indexed look-x points is met by Figure 5, which shows a display of nine keyframes for selection by a user. Nine keyframes is more or less just a suggestion and could presumably be modified to select any number of keyframes as predetermined by the system. The claimed step of displaying the predetermined number of indexed points to provide reference for a playback control mechanism is met by Figure 5 again, which shows the typical display to the user with nine keyframes being selectable and referencing different portions within the video to allow for playback control. The claimed step of updating the selected predetermined number of index look-x points based on an update criteria is met by column 4, line 67 – column 5, line 3, wherein Ceccarelli teaches that the display is updated as the video progresses. The update criteria are based upon a distance from the current position.

At the time of the invention, it would have been obvious to one or ordinary skill in the art to include the selecting, displaying, and updating steps as taught by Ceccarelli into the system as taught by Yeo in combination with Yao, in order to allow the user to

see pertinent keyframes and allow them to view keyframes in the near future and recent past.

With regards to claim 8, Yeo, Yao and Ceccarelli teach all of that which is discussed above with regards to claims 1 and 7. Yeo does not expressly disclose any step of selecting a predetermined number of look-x points such that each of the look-x points is within a predetermined distance of a first play position of the data flow.

Ceccarelli inherently teaches that the number of keyframes on the display fall within a predetermined distance of the play position of the video. It is disclosed on column 4, lines 53-58, that the keyframes are located within seconds of each other, with the center keyframe being the currently displayed video segment. Therefore, Ceccarelli inherently shows that the keyframes that are currently displayed are within a predetermined time, and therefore distance of the play position.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the inherent teachings of Ceccarelli, as discussed here, with the system as taught by Yeo and Yao, in order to allow the user to see pertinent keyframes and allow them to view keyframes in the near future and recent past.

With regards to claim 9, Yeo, Yao and Ceccarelli teach all of that which is discussed above with regards to claims 1 and 7.

Yeo does not expressly disclose that the aforementioned update criteria comprise a change of the playback position a predetermined amount from the first play position during the selection step.

Ceccarelli discloses a way of updating the keyframes (column 4, line 67 – column 5, line 3) and the idea of having the currently viewed video segment and its related keyframe in the center and past and future keyframes to the left and right, respectively. In other words, Ceccarelli discloses a dynamic display, which updates according to the currently viewed video segment. At the time of the invention, it would have been obvious to one or ordinary skill in the art to implement the updating criteria of Ceccarelli with the system of Yeo and Yao, in order to allow for a dynamically updated display of pertinent keyframes in the near future and recent past.

Regarding claim 16, Yeo discloses a method for client-side navigating and indexing comprising:

Opening a client side main data stream connection 324 to receive a main video stream (column 3, lines 48-50);

Opening at least another a client side connection 322 to receiving at least one look-x data stream of the main video stream (column 3, lines 48-50, indexing is preformed via display organizer 508 located within user terminal 102, column 4, lines 13-26, column 6, lines 6-18),

on the client side an index, the index comprising a least one look-x data point to at least one corresponding point in said dataflow (organizer 508 creates the index

locally from time stamped data for the corresponding temporal snapshots, column 4, lines 13-26, 43-58, column 5, line 56-column 6, line18) and,

providing control of a playback position of said data flow based on the indexed points in the look-x data stream (figures 6a/b, column 4, line 43-65).

Yeo fails to disclose generating at least one key frame on the client side, display of a keyframe, and updating the generating and displaying steps to keep pace with a general speed of playback of the main video data stream and on the fly indexing.

Yeo fails to teach on the fly indexing.

Yao discloses a client side indexing system which records the position in a program where a user has indicated playback, stop or shifting in time forwards or backwards, and later presents these points to the user in order to easily navigate the program (column 4, lines 1-67, column 22, line 1-50, figures 25-27).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify Yeo to utilize the client side on the fly indexing as taught by Yao, for the advantages of making it easy to navigate through a video stream based off a users past behaviour.

The combination of Yeo and Yao Yeo fails to disclose generating at least one key frame on the client side, display of a keyframe, and updating the generating and displaying steps to keep pace with a general speed of playback of the main video data stream.

Ceccarelli goes into detail about how the keyframes are selected, displayed, and updated. The claimed step of selecting a predetermined number of indexed look-x

points is met by Figure 5, which shows a display of nine keyframes for selection by a user. Nine keyframes is more or less just a suggestion and could presumably be modified to select any number of keyframes as predetermined by the system. The claimed step of displaying the predetermined number of indexed points to provide reference for a playback control mechanism is met by Figure 5 again, which shows the typical display to the user with nine keyframes being selectable and referencing different portions within the video to allow for playback control. The claimed step of updating the selected predetermined number of index look-x points based on an update criteria is met by column 4, line 67 – column 5, line 3, wherein Ceccarelli teaches that the display is updated as the video progresses. The update criteria are based upon a distance from the current position.

At the time of the invention, it would have been obvious to one or ordinary skill in the art to include the selecting, displaying, and updating steps as taught by Ceccarelli into the system as taught by Yeo and Yao, in order to allow the user to see pertinent keyframes and allow them to view keyframes in the near future and recent past.

Regarding claim 17, Ceccarelli is relied upon to teach updating continuously (column 4, line 67 – column 5, line 3).

Regarding claim 18, Yeo is relied upon to teach the use of a look-x data stream. Ceccarelli shows in figure 6 a number of key frames, which are for forwards, and reverse of the current playback position. Ceccarelli is further relied upon to teach

transmitting new updates (column 4, line 67 – column 5, line 3) and low resolution moving snaps near the current playback position of the main video stream (figures 5-6, column 2, lines 4-7). See the discussion with respect to claims 6/14.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hunter B. Lonsberry whose telephone number is 571-272-7298. The examiner can normally be reached on Monday-Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hunter B. Lonsberry
Primary Examiner
Art Unit 2623

HBL